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ABSTRACT

The primary purpose of the documentation operations suggested by the National Teacher Centers Program is to aid individual projects in gaining a more profound and analytical understanding of what is happening within their own centers. The mechanism for this is the development of a massive information storage system, based on data collected from separate agencies. This guidebook outlines a strategy for the implementation of a recording process for programs without diverting great amounts of staff time and/or budget. The suggested documentation techniques can be easily incorporated into a program's prexisting activities. The importance of a favorable climate (in terms of staff attitude), pitfalls to documentation, and sample research instruments are discussed. Methods for analyzing data reaped from the informational system and the program documentation are included. (LH)

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Documenting Success -

A Guidebook for Teacher Centers

by Sally K. Mertens
Sam J. Yarger
Syracuse University

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SYRACUSE AREA TEACHER CENTER
and
The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Division of Teacher Education
and Certification
Albany, New York 12234

1979

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Preface

The U.S. educational system, even with its ambition of providing quality education for all of its citizens, is by far the best in the world. Even in the widely maligned area of reading achievement, e.g., a recent international comparison of nineteen of the world's most advanced nations showed this country to be number one. Yet Silverman and other notable scholarly critics who have carefully studied American education in recent years, have concluded that educators generally do not do a good job of articulating what goes on in the system. Even though it works—and usually very well—we do not know very much about how or why it works. Although we now have a substantive national storehouse of educational successes, we have a very poor recording of how it was built. Until recently, the dilemma did not matter a great deal because educators—especially the major contributors to the storehouse, the classroom teachers—did not have much chance to share their successes. So whether or not they could effectively relate and build upon their educational experiences was of little importance. But with the new emphasis on the continuous renewal of all educators, the need to more effectively draw upon the experience of outstanding teachers is a critical one. As the direct sharing of classroom successes becomes an increasingly important approach in the inservice education of teachers, it is equally important that educators learn as much as possible about how this sharing process works. Documentation is one approach to improving our knowledge about how this process and other important parts of the complex American educational enterprise. It is not evaluation; it is objective record keeping. It is a very valuable management tool.

The primary purpose of documentation in the National Teacher Centers Program is to help projects to better understand what is happening in their centers—to know better what works and doesn't work—to identify and articulate successful practices. Good documentation will provide a stronger foundation for determining how to effect improvement in Teacher Centers projects as well as supply more complete and accurate centers information for educational leaders and policymakers at the local, State, and national levels. It will, most importantly, strengthen the "sharing of successes regarding how we best share successes." *Documenting Success—A Guidebook for Teacher Centers* should prove to be invaluable in this endeavor. Documentation is a relatively new phenomenon in the field of teacher education so we have a lot to learn about how it can best be accomplished. This guidebook which was developed by the Syracuse Area Teacher Center, in close cooperation with the six Regional Teacher Center Documentation Clusters, is a developmental effort intended to help projects document more accurately and effectively. So as you use this guidebook in collecting needed information and in more effectively sharing experiences, you need also to maintain some record of how to document and how to improve the documentation process. We hope that you will freely share your suggestions and "lessons learned" with the Syracuse Center so that future volumes of the guidebook will be even better than this one.

The National Teacher Centers Program staff is deeply appreciative of the considerable effort on the part of Syracuse and the cluster coordinators in putting this publication together. It is a particularly notable achievement considering the fact that all of the cluster activities have been organized and conducted by centers without any extra dollars for staff support. We also extend our very special thanks to the New York State Education Department and the State's three outstanding federally financed teacher centers for helping to support the development and distribution of this useful publication.

ALLEN A. SCHMIEDER
CHARLES LOVETT
The Office of Teacher Centers
United States Office of Education

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S.K.M.
S.J.Y.

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Introduction

The Teacher Centers Program has tremendous potential for yielding information that can be translated into programs which truly meet the professional needs of teachers. There is also a parallel potential for losing valuable information unless plans, backed up by commitment, are made to ensure that information is collected and recorded. There is, for instance, the real possibility that the Teacher Centers Program will appear to be successful, yet possess limited information to explain the phenomenon. The intent of this guidebook is to help those involved in the Teacher Centers Program to develop and implement documentation strategies which will result not only in better programs but also in better information about projects.

There appears to be some natural resistance, however, to documentation. Consider the following scenario—a recent exploratory study found that project managers in an innovative federally funded program had few good feelings about the proposed documentation component of their program. A sampler of responses to the question "How do you feel about documentation?" ranged from "resistance" to "negativism" and included:

- "I don't know how anyone can expect me to get involved in documentation when I have *real* problems."
- "I don't know what it's supposed to be. I don't know where to start and I don't know where I'm headed."
- "We don't have the money."
- "Sounds like evaluation to us and we don't think it's fair to evaluate our program yet."
- "We barely have the staff to take care of our program needs much less to get involved in something as esoteric as documentation."
- "Sounds like a lot of extra work with absolutely no payoff for our local program."

Those who are enthusiastic about getting involved in documentation are, it seems, rare creatures.

This guidebook is written with the hope that those involved in the Teacher Centers Program will come to realize the need for and the value of documentation. It will describe some specific strategies that can be used without diverting great amounts of staff time and/or budget, and which can be engaged in as part of program development and implementation. In fact, the process should result in an improved program. This guidebook will work from the assumption that much of the resistance to documentation is a function of either lack of understanding or just plain mystery regarding what documentation is and what it implies. The first task is to get a grip on what is involved.

I
Documentation: Toward Clarification

Documentation subsumes an entire gamut of activities concerned with information—from gathering to using information. A partial listing of these activities would include but not be limited to—

- Collecting and recording information
- Generating information
- Organizing information
- Synthesizing information
- Analyzing information
- Explaining information
- Using information
- Disseminating information

It is likely that part of the mystery that enshrouds documentation and fosters resistance is a function of the inclusiveness of the concept, i.e., it may mean different things to different people. If someone should indicate an involvement in documentation, it could mean being involved in one or more of these activities, all of them, or still other activities that were not mentioned. More frightening perhaps is the prospect that a commitment to documentation is a commitment to perform simultaneously all of the above-related tasks—and to do so in connection with each and every program facet. That is not the case.

We must attempt to better delineate what's involved in documentation. Perhaps more importantly, we must delineate what does not have to be involved if we are not to be overwhelmed by the task at hand, i.e., documentation of teacher centers projects. Therefore, toward clarification—

- **Purpose**

  Documentation is neutral with respect to purpose. It can be engaged in for any purpose so long as the rationale is specified prior to engaging in data collection. The emphasis is on developing usable information.

- **And Nonpurpose**

  The purpose is *not* the production of reports for the sake of reporting. The purpose is *not* the total description, analysis or explanation of everything that occurs.

- **Essential Characteristics**

  Documentation is systematic.
  Documentation is accurate.
  Documentation is complete within a focus area.

- **Implied Conditions**

  The rationale for documentation has been previously and specifically delineated.
  The focus area(s) or specific question(s) to be answered has been previously determined.
  The capacity to perform documentation within a focus area has been determined; human and material resources are intact or are available.
  The commitment to perform documentation is evident, including a recognition of the amount of effort, discipline and expertise that is required.
  A climate conducive to documentation is evident, including a recognition of the need for the activity.

Excess Baggage

While documentation can take many forms, there are some things that it is not. It is not—

A newsletter
Materials development
The "Annual Report"
Democratic involvement of participants
Cost analysis
Conference presentations

All of these features may be desirable, and may even be necessary. They may, in fact, be by-products of documentation. The important thing to note is that, in and of themselves, they are *not* documentation and should not be considered as evidence that something program-wise has occurred.

II
Documentation: To Learn About Teacher Centers

While "centers" have been evolving for several years as an innovative approach to inservice, little systematic documentation has occurred. In short, there is much to be learned about teacher centers. The Teacher Centers Program has the potential of developing a base of information that can be used to answer a myriad of questions about how to develop and implement programs. The first task in developing a documentation plan is to determine what information should be collected. It must be asked: What do we want to learn about teacher centers? What information do we need? Why do we need it? A clearly stated rationale for each aspect of the documentation plan should keep project personnel from the tedium and the pitfall of collecting data for the sake of collecting. The boundaries of the

documentation effort should also be clearly delineated at the outset so that it can be known when complete information has been collected.

Some potential focus areas will be presented. It should be made very clear that the decision to focus on one or more of these areas of interest, or other areas not listed, must be made within the context of local objectives and priorities. This decision must also involve a thorough consideration of the potential constraints, e.g., lack of resources, nonconducive climate.

So as to more specifically define some potential areas for documentation, they will be posed in the form of questions. The questions are presented in the spirit of illustration and not as a list to be answered. The specific parameters—typically defined by questions to be answered—of a documentation effort must, of course, be developed by project personnel.

Involvement of Teachers

It is often said that teachers are more involved in teacher centers than in other forms of inservice education. It is legitimate to ask, therefore, What do we mean by "involvement?" What teachers are involved? To what extent are teachers involved? How do they become involved? Why do some teachers not become involved? Do teachers, for example, initiate ideas for specific teacher center activities or programs? What are the channels or procedures for involving teachers in planning program? Do teachers have responsibility for implementing certain aspects of the program, e.g., workshops? Do teachers have the opportunity to evaluate teacher center activities? If so, how is this information used in planning future program offerings? Is a teacher's background related to the type and degree of involvement? Is a teacher's professional experience or professional specialty related to type and degree of involvement? What are the specific types of extrinsic motivation, e.g., release time, direct stipend? How much time do teachers spend in teacher center activities?

Policy Board

The interest in teacher involvement might be focused by looking at the Policy Board which, by law, must have a majority of teachers. Is the Policy Board an effective mechanism for involving teachers in decision-making? What kinds of decisions does the Policy Board make? What is the involvement of the various represented role groups in the decision-making process? What are the patterns of influence on the Policy Board? How are the Policy Board members perceived by their role-group peers? What are the incentives for serving on the Policy Board? What is the relationship of the Teacher Center director to the Policy Board? What is the relationship of the Policy Board to the local School Board? What role group(s) predominates in the decision-making process? What institutional policies or educational laws constrict the operations of the Policy Board? Do those teachers selected for the Policy Board share any characteristics?

Role of the Teacher Center Director

This is a new professional career which has emerged with teacher centers. There is certainly a need for information about what the position entails and what skills are required to function effectively in this role. How was the director recruited and selected? What role group predominated in the selection process? What is the director's academic background and professional experience? What are the the director's future career plans? How much is the director paid? Who pays the director? What does the director do? How is the director perceived by the teachers? How is the director perceived by the school administration?

The Program

Probably the most important area of interest concerns teacher center program activities. What types of activity, services and resources does the project support? What do teachers learn through participation? How are the needs for programming determined? Are the needs of teachers addressed? Are the specific needs of children addressed? Are the needs of school systems addressed? Who, or what role groups are involved in determining priorities for program? When and where are activities offered? Who is responsible for various aspects of the program? How was the staff recruited, selected and trained? What types of activities are most successful in involving teachers? What incentives are offered? What is the relationship between teacher center offerings and other institutionalized offerings such as college and school district inservice courses? How is the program evaluated? How are the various activities financed? Is the program related to the professional growth of teachers?

III
Figuring Out What To Document

The sampler of questions presented above may create for some—particularly those who are eager to become involved in documentation—an eyes-stomach dilemma similar to that faced by the smorgasbord guest who impulsively loads his plate with more food than can possibly be eaten. That is, temptation is a real problem for people involved in documenting programs. But, as in eating, in documentation it is essential to determine that each available bit is not only available, but is also important and/or necessary. Or, more succinctly, more of anything is not necessarily better.

Making Trade-offs

It is often difficult to establish commitment to a documentation strategy that requires a systematic, accurate, and complete collection of data within a clearly specified area of interest or concern. While most can accept the logic of "systematic," "accurate," and "complete," problems are likely to arise when it comes to choosing from an array of important questions. Typical of the questions that might be raised include: How can we know at this stage what is most important? What if we don't document "this" and then we need the information? But if a focus area(s) is not determined, either an overly energetic documentation agenda will emerge, or there will be no documentation at all. In the former instance, everything is documented, overstuffed file cabinets and computers result and information is likely to become inaccessible. In the latter case, these information holders are empty and needed information is totally unavailable. Therefore, a documentation focus area(s) must be determined and trade-offs will have to be made. These trade-off decisions may not always be 100% right, as hindsight is indeed likely to prove. Yet, making a decision at the appropriate time with the best information available is nearly always better than making no decision at all.

The point to be stressed is that there must be a defensible rationale for the documentation questions to be answered. The point that may be hard for project personnel to accept is that certain important areas of interest will not be documented. Project personnel should, however, take comfort in the knowledge that they will not have to live with the alternatives, i.e., a mountain of data that cannot be analyzed, or even worse, no data at all.

The necessity of engaging in the often frustrating process of making trade-offs is hopefully apparent. Consideration must now be given to the substance of this process—to what it is that may actually be traded.

All Is Relative

The documentation agenda should be determined within the context of project objectives and priorities. Choices will have to be made or one will be dealing simultaneously with a veritable feast of questions such as those listed on page 3. With regard to each potential documentation focus area it must be asked: Why do we want this information? To be included in the documentation effort, information should of course be available. Furthermore, the information should be necessary and/or important. Some examples will perhaps clarify these criteria and offer some guidance in cutting down what could become an overwhelming agenda.

Available but not important. Consider, for example, "school daily schedules" as information which might be included in a documentation effort. There is certainly a lot of information: instructors, rooms, content areas, times, levels, periods and so on. This information is readily available in that it is hardly ever thrown away. However, even though this information is important in understanding a school routine, it probably is not important in a teacher center documentation effort.

Available and important. In some instances, however, the school schedule may be information of the highest order; it may, for instance, be definitely related to achieving program objectives. If a teacher center project is targeted at expanding opportunities for peer-to-peer consultation during the school day, then obviously the school schedule is within the realm of concern, since without a facilitative schedule, peer-to-peer sharing would not be possible. In this case, *part* of the information provided by a school schedule is both important and available.

No longer important. A certain aspect of a project may initially be determined a high priority documentation area. Instruments may be developed and data may have been gathered. One should be aware, however, that sometimes the documentation process will take over, and develop a life of its own that may very well outlive the importance of the high priority area. For example, it is likely that one of the teacher center director's most important tasks in initiating a new teacher center is gaining visibility with the various constituencies. A telephone logbook would be a good tool for documenting the number and types of contacts made. However, the importance of documenting these telephone contacts is likely to diminish relative to

other concerns as the teacher center program becomes established. It is likely that in the third year of operation, time could be better spent, for example, in documenting the process for assessing the needs of teachers who have already participated in three years of programming activities.

Special—but not important. There will often be special or interesting program features which are not clearly related to program objectives. The temptation to document these features may be particularly strong because of their specialness. They, however, should be seriously considered as candidates for exclusion since they are likely to clog the documentation effort. An example of this might be the documentation of a single, interesting program component that, although well received, really doesn't relate to the objectives of the project, e.g., the development of a teacher center speaker's bureau.

Special and important. On the other hand, special features which are clearly related to program objectives or priorities should definitely be considered as potential documentation areas. If a program is, for instance, relying heavily on teacher-led workshops and if special training is provided for these teachers, consideration should certainly be given to documenting this special training program.

Necessary but not available: restructure the question. There are times when certain program aspects should be documented but the information is not readily available. Half the battle is asking the question in a manner in which it can be answered or documented. For example, suppose one wanted to document the "success" of a drop-in materials development center—but no one would take the time to fill out a questionnaire. It might be reasonable to keep a careful check on the number of teachers that use the center, and suggest the "usage" is an acceptable proxy for success.

Important—but not available: must do without. There are instances when it may become obvious to the documentor that complete and accurate information simply is not available. Under these circumstances it is probably best to acknowledge the difficulties and not attempt data collection rather than to go through procedures which result only in incomplete and/or inaccurate information. An example of an area of importance which might present such problems is documenting the "ripple effect" of a teacher center activity on teachers in an adjacent region. Although these data may be technically available, there undoubtedly would be a great deal of time, money and human energy expended to obtain them.

In making trade-offs potential documentation areas should be considered within the context of project objectives and priorities. From the examples above it should be clear that there are no hard and fast rules to guide the trade-off process. What is important relative to one set of considerations is often less important relative to another set.

Knowing Your Resources

Another consideration in making trade-offs and developing documentation priorities is a project's capacity for documentation. Not only must the information to be collected be important, and/or necessary, and/or special and related to program objectives, but the project must have the resources, personnel and budget to perform the necessary tasks. Although project personnel often express a lack of confidence in their ability to systematically gather data, most projects have or can acquire the skills to engage in what might be called "basic documentation."

Basic documentation is concerned only with the following question—"What happened in relation to what you wanted to happen?" This question can be addressed by a strategy that essentially involves nothing more than structured counting. Program personnel simply take operationalized statements of their objectives and list the questions that naturally flow from them. Then they choose those questions that are not only important, but for which they also have the resources to answer. Very simple tools and record keeping strategies can then be developed that will allow all of the pertinent data to be collected with little or no slippage between the cracks. This strategy, which requires more compulsiveness than sophistication or expertise, is concerned only with observational or record-embedded data. It is documentation at its simplest and easiest. Yet, it is a systematic approach that requires accuracy, and the information derived can be most useful to those who want to learn about the program.

Interestingly, some project personnel often feel that a strategy so simple and basic as counting (particularly within narrowly defined areas) cannot yield useful information. However, if the activity is conscientiously performed, then the process can yield information which is very useful in program development. If it is done on a regular schedule, then different sets of data can be examined for such things as change and stability.

Consider, for example, how easy it is to ask a few questions of those in attendance at teacher center events. All kinds of questions can be answered with this kind of information. What percentage of the attendees is "beginning teachers?" What percentage of teachers in the service area becomes involved in ac-

tivities offered during release time? What percentage of the teachers becomes involved in workshops? What percentage in courses? What percentage of the teachers was involved in five or more teacher center activities during the semester? And so on. The only skills needed to gather these types of data are the ability to ask questions, to count and to keep records. The implications for program development are sometimes more profound than one could imagine.

It would seem that most local projects have the staff and resources to engage in basic documentation. While no specific recommendation can be made as to which staff person should be in charge of the effort, it seems clear that someone must assume responsibility. One cannot expect that an abstract, shared responsibility will work. Hopefully, if the process is viewed as important to both project personnel and to the Policy Board, then it will be possible to find a staff member who is interested in developing the documentation activities. This is an important point, made more important because one of the essential tasks of a documenter is to pay special attention to detail.

Knowing How Much External Help You Can Effectively Use

It can probably be assumed that if a project has staff with the expertise to develop a funded proposal, then it probably has staff which also has the expertise to engage in basic documentation. Basic documentation, as we have seen, can be thoroughly and well done without tremendous demands on available resources. There are, however, requirements. These include the commitment to gather basic information, the willingness to think through priorities, the discipline to stay with the task, and the availability of what might be termed "compulsive secretaries." The decision to become involved in more complex documentation strategies will require a much more careful consideration of available resources. Resources of importance in this case will usually be fiscal, since monies will be required to retain the necessary technical assistance.

A word of caution is in order here. Often the availability of money budgeted for documentation will preempt asking, "Is there a need for more complex documentation that requires professional skills that the program staff does not possess?" There is often the temptation, once monies have been budgeted for "external assistance" or "consultants," for project personnel to totally withdraw from the documentation effort and go back to the more immediate problems of running a program. While this may be understandable, project personnel need to be realistic concerning the amount of assistance that consultants can provide. All too often, project personnel expect consultants to deliver far more than is reasonable. Unless the project personnel carefully control the documentation process, they are likely to end up with yet another 800-page report, loaded with exhibits, statistical charts and tables that no one understands. They are likely to end up with everything, yet have nothing. Choices have to be made—and they have to be made by those who understand the program, i.e., project personnel. There is no amount of technical assistance that can be substituted for in-depth understanding of any specific teacher center.

Another caution is in order with respect to deciding to use more sophisticated documentation strategies. Using packaged materials is currently in vogue, and there are sales representatives wanting to sell tracking programs, split-plot designs and the like, not to mention all the attending hardware. Before you buy, think about the documentation priorities that have been established. If you don't have the need to record a certain piece of information manually, there is probably no reason to do it by computer. And, before you succumb to the urge to use an existing computer, remember—while it is easy to plug data in, getting information out in any comprehensible form typically requires a level of expertise.

Whatever the form of external help, remember that the trade-off is usually some loss of control over the process. Whatever might be gained in sophistication may very well be lost in a lack of understanding about areas that are very important to a project.

Although one must be careful about the use of outside consultants, there are times when external help will be invaluable. If documentation priorities have been established, if the type of desired information is known, if the problems to be encountered have been thought through—then it is possible to solicit help, knowing that the program personnel will actually control the process and receive information that is tailored to meet specified needs. Perhaps the following rules of thumb will be helpful—

- Don't hire an outside expert until the areas to be documented are known.
- Be precise and demanding in explaining to an expert what is wanted, and the form that is desired.
- Ask that the data be presented in "neutral" form—i.e., without judgments as to whether it is "good" or "bad."
- Always ask about the limitations of data forms that are new to you or that you don't understand.
- Always work from the posture that the "expert" is to serve your needs—not vice versa.

The Fear of Not Documenting

This section has focused on things to consider in determining a documentation agenda. At the outset it was pointed out that documenting each and every program facet is not within the realm of possibility. Although a rather long roster of potentially important questions was presented, emphasis was placed on the process of making trade-offs. The main point is that potential documentation areas must be considered and trade-offs made within the context of project objectives and priorities and with respect to a teacher center's capacity for documentation. In other words, not all the questions that one might think to ask about teacher centers are going to be answered by any one documentation effort.

Nonetheless—often a project that has outside monitoring is swept with the postmortem fear that something has been left out that someone, external to the program will sometime decide is or was important. A sampler of possible questions has been presented; there are, of course, others. The decisions, which must be made regarding which questions to answer, should be based on a rational assessment of needs for information and of resources, and should not be based on the fear of not documenting since this fear can transform what began as a rational, purposeful, systematic documentation effort into an albatross. A well-defined, complete, systematic effort can quickly turn into, "We'd better do a little bit of everything just in case." The emphasis shifts from quality to quantity; and usually, though it will probably not be immediately evident, the information collected shifts from usable to trivial. This shift can occur very quickly at almost any stage of the project. If it does occur, data collection rather than purpose can run the program to the detriment of all involved. A good example of this is where "success" measures become the focus of the documentation effort. Currently in some highly visible programs, particularly those that are emphasizing basic skill proficiency, there is an emphasis on teaching for results. Unfortunately, developing evidence of results sometimes takes precedence over the teaching and learning process.

IV
The Importance of Climate

A well-conceived documentation plan can be short-circuited if a favorable climate is not established and maintained. Documentation must almost always be a group effort from the beginning although some project personnel will necessarily be more involved than others at different stages. If documentation is to occur, teacher center personnel must understand the reasons for it, must value it, and must be willing to participate in the process. The documentation plan must emphasize getting maximum information with a minimum of imposition on program participants. If no data collection occurs without a clear and specific rationale, imposition will be kept at a minimum and quality of information will probably be high. If, on the other hand, the "documentation committee" goes out to the teachers with one questionnaire after another, and none with any clear rationale, cooperation is likely to be strained.

Climate can also be made more favorable if evaluation is kept very distinct from the documentation effort. It needs to be stressed repeatedly that documentation is neutral with respect to purpose and particularly in regard to evaluation. If this is not done, distrust and miscommunication are likely to sweep the project. Emphasis needs to be placed on documentation as a procedure to generate usable information about how a program functions. It is often difficult to maintain this stance inasmuch as people are accustomed to being questioned and observed only when they are being evaluated. Data collecting instruments that are used should probably be primarily descriptive. If observation of people is required, diplomacy suggests making these instruments public or available. When judgments must be made, it should be very clear that it is program evaluation and not personal evaluation that is involved.

V
Pitfalls to Documentation

Assuming all the implied conditions (see p. 2) have been met, there are still several documentation pitfalls to avoid. Among these are—

Again—Documenting Anything and Everything

This can happen even though the original plan for data collection was rational, reasonable and restricted to a clearly defined focus area. Interestingly enough, this often occurs in projects where the climate is most conducive; the temptation is just too strong not to resist collecting "this" or "that" since there is an opportunity to do it and there is no identified resistance. Overdocumenting is also likely to occur if the "fear of not documenting" becomes preeminent. Documentation, without a definite rationale, will eventually strain the climate for data collection and result in information overload. Collect only as much information as is needed and on a schedule that can be explained.

Not Recognizing Information

The flip side of overdocumenting is not recognizing information that already exists, usually in some already established reporting system. One of the common mistakes made by program documenters is the continual duplication of data that could have been had for the asking. For example, rather than asking each and every teacher to fill out a schedule form, ask the principals who are likely to have the schedules of all teachers on file.

Adjusting the Schedule for Data Collection

While it can probably be expected that all data collection will not come off exactly as planned, every effort should be made to approximate realistic target dates. Understandably, program concerns may get in the way of data collection and some adjustments to the schedule may be required. However, every effort should be made to minimize the effect of these diversions on the documentation plan. Straying too far from the schedule will eventually result in last minute report demands on staff that can't be met.

VI
The Nitty-Gritties of Documentation

Documentation can be engaged in for any purpose so long as the rationale is specified prior to engaging in data collection. It is assumed, therefore, that, prior to considering the nitty-gritties of documentation, decisions have been made with respect to which program elements will be documented. Furthermore, it is assumed that the documentation focus area(s) has been rather precisely defined by specific questions and that each specific question has a rationale. Each question is likely to suggest several data collection strategies, each of which typically has advantages as well as limitations. While general statements can be made regarding some common procedures for collecting data, the "appropriateness" of each procedure can be judged only within the context of a documentation plan.

A First Cut at Defining the Tasks of Documentation

The essential task of documentation, as the term implies, is recording information. The essential related task, therefore, is collecting information. If this guidebook has a main point, it is that not all program information can be collected and reported, but what is documented must be done so systematically and accurately. The nitty-gritties will be concerned with procedures for systematically and accurately collecting and recording important project information.

There is a virtual myriad of possibilities when one begins to consider data collection philosophies, strategies and instruments. In fact, experts have presented their views as well as their technical assistance in numerous resources (some of the best are referenced in appendix A.). So as not to be overwhelmed by the possibilities, let's begin with a serious consideration of those procedures which are the most difficult to implement. Some of these procedures can probably be eliminated from the realm of possibility unless there is the commitment to muster the resources to deal with the problems associated with them.

Those procedures that are the easiest to administer are unfortunately the ones that are most likely to be misused. The questionnaire is probably the most overused and misused of all the data collection procedures. It does not take much expertise or effort to put together a bunch of questions, attach a label "Questionnaire," and put it in the mail. The total emphasis is often on just going through the data collection process. Details like poorly constructed questions and low return and response rates are often ignored. A more sophisticated variation of the questionnaire is the personal interview. While there is no intent to denigrate question-asking approaches, it should be emphasized that, of all the data collection strategies, they require the highest degree of forethought, effort and expertise if they are to be done in any worthwhile way. Developing valid schedules of questions, training interviewers, and analyzing the information collected are no jobs for amateurs at documentation.

There are several descriptive approaches that also require a minimum of planning prior to data collection and are, therefore, often misused. For example, all program participants might be asked to log their experiences, or to give detailed case histories. It is an easy approach to documentation, in that no decisions have to be made as to what is important prior to the initiation of the process; it takes little forethought to give the direction "Keep a logbook." In too many instances, however, little consideration is given to some details—like it takes almost as long to "log" something as it does to experience it or that somebody eventually is going to have to attempt to make some sense out of the wealth of data. Systematically analyzing complete descriptive accounts also requires the highest degree of forethought, effort and expertise and is likewise no job for amateurs. Furthermore, truly comprehensive, descriptive approaches are likely to quickly drain the reservoir of staff energy.

This guidebook hopefully has an obvious bias toward planned data collection: no bit of information is to be collected unless there is a clear rationale for its need and there is also a definite plan for how to deal with the data once it is collected and recorded. *Within this framework*, question-asking and descriptive strategies are certainly appropriate; in fact, they are necessary. However, lacking this framework, i.e., without a rationale and/or a plan for data analysis, question-asking and descriptive strategies should be eliminated as viable procedures in a documentation effort that aspires to be accurate, systematic and complete.

Developing Instruments—A Sampler

This guidebook is written with the assumption that most projects have the capacity to engage in basic documentation and, therefore, can develop the necessary framework for good data collection. Basic documentation does not require an advanced degree in data analysis; but it does assume a commitment to detailed forethought and planning. While *the* nitty-gritty prerequisite is knowing precisely what information is needed, the nitty-gritty task is developing instruments and schedules to focus observations and recording. These tools constitute a type of final statement about what information is valued, i.e., is it to be included in the documentation effort.

The actual documentation instruments are the mechanism for standardizing observations and for systematizing the gathering of data. They are also the mechanisms for ensuring that only the information which is needed is collected, for ensuring that extraneous information—which is likely to drain morale in the collection stage and clog the effort in the analysis stage—is not collected. Each entry (e.g., a question or a description form) should have a rationale and be so precisely stated so that one or more observers can note and record in the same way some program element. These forms, therefore, also serve as an internal check on the validity and completeness of data collection within a given area. The instruments themselves can assume a variety of forms. In fact, a basic documentation instrument could be developed to collect relevant information with respect to each of the questions listed on page 3. Several examples will be presented. Again, these are in the spirit of illustration and are not presented as models to be copied.

EXAMPLE #1: TELEPHONE INTERVIEW

Hypothetical focus area: Involvement of teachers

Sample Question: Why do some teachers, and not others, become involved?

Procedure: Random sample of service area. Documenters are trained to query and to record teacher responses on a form.

Sample Interview Questions:	*Sample Recording Form:*
1. Have you heard about the Teacher Center?	1. If "yes," How? (check) ____ Teacher Center Flyer ____ Word of mouth ____ Personal contact by Teacher Center Staff ____ School Administrator ____ Other (specify) If "no," give brief description of Teacher Center.
2. What activities have you participated in? (If "yes" to #1 above.)	2. Check all that apply: ____ None ____ "Make and Take Workshop" ____ "Classroom Observation" ____ "Organizing Your Classroom for Mainstreaming" ____ "Media Workshop" ____ Resource Center ____ Classroom consultations . . . thru "n" program activities . . .
3. Why did you take part in _____? (If "yes" to #1 above and for *each* activity mentioned in #2.)	3. Check all that apply: ____ Needed for certification ____ Needed for inservice credit ____ Stipend ____ Convenient time (specify) ____ Convenient location (specify) ____ Helpful in current teaching assignment ____ Sounded like fun ____ Other (specify)
4. Why have you not participated in any of the activities that have been offered? (If "yes" to #1 above but "none" to #2.)	4. Check all that apply: ____ Don't need whatever the incentive was (e.g., stipend, credit, etc.) ____ Don't want to leave my class for "release time" activities ____ Not related to my teaching assignment ____ Inconvenient time ____ Inconvenient location ____ Other (specify)
5. . . . thru "n" questions . . .	

Asking questions is the most direct route to getting certain information. The telephone interview was chosen as a middle-ground example of question-asking strategies. It's likely to get a much higher response rate than a questionnaire; yet it it much easier to train people for conducting a telephone interview than it is for a personal interview. Still, it shares with the personal interview the advantage of being able to probe, or to follow up certain areas of questioning. Furthermore, the telephone interview does not have the recording problem of the personal interview, i.e., time delay. Telephone interviewers can be trained to record responses, accurately and reliably, while conducting the interviews.

EXAMPLE #2: CHECKLIST

Hypothetical focus area: Involvement of teacher

Sample Question: Which teachers are involved?

Procedure: Attendance is taken at *each* Teacher Center activity

Sample Attendance Form: See page 12.

The checklist requires the most specific definition of what information is wanted. If absolutely nothing is known, for example, about which teachers are involved, then the telephone interview would initially be the most appropriate procedure. However, once some hunches are developed or indicators are derived, then an instrument, such as our attendance checklist, can be developed. While the interview is likely to yield more information on each teacher contacted in a random sample, the checklist is likely to yield less but more relevant information on all the teachers involved.

EXAMPLE #3. STRUCTURED LOGBOOK

Hypothetical focus area: Role of the Teacher Center director

Sample Question: What does the director do?

Procedure: One day per week the director keeps a logbook. The days are systematically rotated, e.g., Week I—Monday, Week II—Tuesday, etc.

Sample Page of Logbook: See page 13.

The structured log will yield information that will look quite different from that which would be likely to result from the direction "Keep a logbook." Notably, the structured logbook will not have as much information as the unstructured logbook. Somebody might well raise the issue that it is important to know, for example, what the director did on Thursday during Week I. However, loss of this information, and other bits as well, will probably be well-compensated for by the type of information that *is* obtained. The information that is collected can be used to answer specific questions that have been determined to be of specific importance. Furthermore, there is the likelihood the information that *is* collected is complete within the scope that has been delineated by the categories. (Typically, unstructured logs become less complete and detailed with time since eventually very arbitrary decisions are made with respect to what is to be included.) The structured log approach also greatly facilitates the data analysis stage. There are many unstructured logs around that will never be analyzed because of the difficulty of organizing and boiling down the information.

EXAMPLE #4: SELECTIVE ACTIVITY SUMMARY

Hypothetical focus area: The Program

Sample Question: What types of activities does the project support?

Procedure: Teacher Center staff completes form for each activity

Sample Form:

I. —Title of Program Activity

_____

II. —Structure of Activity (check all that apply)

- ____ All participants engage in uniform activities to achieve uniform goals (e.g., a standard course).
- ____ Each participant engages in individualized activities to achieve uniform goals (e.g., programmed or self-instructional activities).
- ____ Each participant engages in individualized activities to achieve individualized goals (e.g., experience modules).
- ____ Each participant engages in individualized activities; there are no specific goals which all participants must achieve (e.g., classroom consultants or advisory sessions).
- ____ All participants engage in uniform activity but there are no specified goals (e.g. a lecture series or a "course" with guest speakers and no requirements).
- ____ Other (specify) _____

17

Make and Take Workshop
Metropolitan Teacher Center
January 5, 1979, 4–6 p.m.

NAME	SCHOOL			GRADE			LAST DEGREE				DEGREE DATE					YEARS EXPERIENCE						YEARS—CURRENT POSITION						SUBJECT SPECIALTY	"N"
	Nichols	North Middle	Waterman High	K–5	6–8	9–12	B.A.	M.A. or M.S.	C.A.S.	Ph.D. or Ed.D.	Before 1949	1949–1956	1957–1962	1963–1969	1970–1978	More than 20	15–20	10–14	5–9	3–4	Less than 2	More than 20	15–20	10–14	5–9	3–4	Less than 2	Specify in space below	(site specific data)
Jan Smith		✓			✓							✓				✓									✓				Reading	
Bob Jones			✓			✓					✓									✓								✓	English	

Activity Log
Teacher Center Director
Week I—Monday
September 4, 1978

Sample page of logbook:

Attending to:	Hours of Day													
	9	10	11	12	1	2	3	4	5	6	7	8	9	
Planning Program														
Developing Materials														
Classroom Consultations														
P.R.—"Awareness"														
Running Resource Center														
Contacts with School Administration														
Contacts with Higher Education Institution														
Policy Board Matters														
Supervision of Staff														
Evaluation of Program														
Budget Matters														
Dissemination														
Conducting Program														
Supervision of Student Teachers														
Other (specify)														

III. —Broad Goal of Activity (check all that apply)
- ____ Bringing people together to share ideas, information, expertise (e.g., a work party, workshop, or peer-to-peer session).
- ____ Bringing people together to learn from an acknowledged expert in some particular area of interest or concern (e.g., a traditional course or a speech).
- ____ The specific provision of resources for an individual to develop professionally (e.g., minigrants, visitations, consultations).
- ____ The generalized provision of resources and support for teachers (e.g., hot lines, media vans, networks).
- ____ Other (specify) _____

IV. —Content of Activities (check all that apply)

A. Developing teacher skill to implement existing curriculum
- ____ Basic skills, i.e., reading, math
- ____ Other subject areas
- ____ Mandated area (e.g., mainstreaming)
- ____ Contemporary curriculum (e.g., metric, environmental)

B. Teacher development of instructional materials
- ____ Basic skills, i.e., reading, math
- ____ Other subject areas
- ____ Mandated area (e.g., mainstreaming)
- ____ Contemporary curriculum (e.g., metric, environmental)

C. Developing teacher skill in managing and organizing instruction

V. —Location of Program Activity
- ____ Teacher Center facility
- ____ Campus facility
- ____ School building
- ____ Other

. . . thru "n" questions . . .

By using a form like this, the documenter can develop profiles of each of the activities offered by the teacher center. Although the documenter will not have the total information on each activity, the composite information on all the activities should be most valuable in program development. Let's suppose a project completed forms, such as Example #2 and Example #3, for each program activity for one semester. It would be possible to determine quite easily which types of programs met the needs of certain types of teachers. Such an analysis might, for example, point up such interesting things as fewer high school teachers than elementary teachers become involved in workshops. If the center is attempting to expand the involvement of high school teachers, this type of information would certainly have implications for program development.

EXAMPLE #5: PROCESS OBSERVATION

Hypothetical focus area: Policy Board

Sample Question: Is the Policy Board an effective mechanism for involving teachers in decision-making?

Procedure: Documenters are trained to observe and simultaneously record pertinent information

Sample recording form: See page 15.

Process observation is an excellent approach to documenting elusive program questions like, "How effective a mechanism is the Policy Board for involving teachers?" An alternative approach might be to ask the teachers, "Is the Policy Board an effective mechanism?" However, it would be extremely difficult to determine what the teacher responses might mean. While process observation will not yield information that will directly answer the question, it will yield good information for making inferences. By using the same observational recording system over several meetings, comparisons can be made and trends may become evident. If it becomes apparent, for example, that most of the proposals are being introduced by the two administrators on the Policy Board, then it could be inferred that some dynamics are in play which are discouraging the active involvement of teachers. This would certainly have implications for the teacher centers project.

Observers, of course, will have to be trained. And, care must be taken to keep the observers as inconspicuous as possible in the situation that is to be documented. A word about observer training: whatever the recording format, the more specifically each element to be recorded is defined, the more reliably observers can be trained. Put another way, the less judgment required in completing the reporting form or the more routine the reporting procedure, the easier it is to train observers. If monies are available for external assistance, one place they can be well spent is in developing instruments and training coders.

About a Schedule

First, and this should be underscored, the instruments just presented are meant to convey only a sense of possible data gathering tools. They are not meant to be used in the form presented. In fact, the point has

Policy Board Observation Form

Site _____ Date _____ Time Begin _____ Time End _____ Observer _____ Total Marks ____

NAME	ROLE GROUP	QUESTIONS			STATEMENTS				OTHER
		ABOUT OPINIONS (Where a person stands on an issue or topic)	ABOUT DETAILS (Asking for clarification information of facts)	ABOUT CONSENSUS (Asking where the group stands, i.e., Does everyone agree?)	PROPOSALS (Introducing a new idea or suggestion)	REPORTING (Committee or individual reports)	MOTIONS (To act on)	DISCUSSING DETAILS (About a topic, report, or idea)	(Anything that cannot be classified to left)
TALLY									

been made that each project will give to involve a variety of constituents in determining just what should be documented. As pointed out, trade-offs will have to be made, some things will become documented—others will not. Once this process has been completed, and if the information required resembles the sample instruments that have been presented, then and only then should these instruments be used as a basis for developing a documentation strategy. Finally, there are many important details about instruments that were omitted in these examples. For example, training strategies are not included, nor are criteria for establishing observer competency. These and other details are very important, and would need to be encountered with the use of these instruments, or with the use of any other instrument.

Now, about documentation schedules. It is really not appropriate to suggest a documentation schedule for any particular teacher center project. There will, and should be, much variability. One can expect that documentation will start slowly and develop as the project matures. During the developmental stages, perhaps only one or two activities will be undertaken. Hopefully, as documenters develop more skill, and the task becomes less arduous, other activities can be added.

Although no documentation "norms" have been established, it is still appropriate to look at what might be a possible set of activities. If, for example, one were to take only the Selective Activity Summary (#4) and the Process Observation (#5) it would be possible to construct a full, and very helpful, documentation schedule.

Ideally, the Selective Activity Summary format could be used to document each and every program activity. At the end of a year, the project would have a myriad of information about program development. If, however, resources were not available to accomplish this, every other activity, or every third activity could be documented. If this type of "sampling" were undertaken, the program staff would have to be careful not to develop activities around whether or not documentation was going to occur. The goal of the sampling process is to provide project personnel with a "best estimate" of the total program.

Continuing with the example, suppose that one or two observers were trained to study and record the processes of the Policy Board—with a form much like that suggested in Example #5. In this case, assuming the Policy Boards meet monthly, it would be possible to record and follow the dynamics of the interaction on the Policy Board over the course of a year. One could entertain questions such as: Have the dynamics changed? Have teachers become more involved as time goes on? Are the quality of topics dealt with by the Policy Board changing? It would be possible to construct a one-page graph that would quite dramatically demonstrate what, if any, changes had occurred.

If the two forms were constructed quite carefully, with attention paid to specific critical variables, it would even be possible to attempt to link Policy Board processes with program activities. This is a ticklish problem, and would probably require some expert advice, but it nonetheless, is possible. If this were to occur, one might be able to handle questions such as: Do the program activities reflect those decisions made predominantly by teachers? To what extent do program activities reflect leadership decisions (i.e., decisions made by the director and staff)? Other questions could be dealt with as well. Some of the issues to be solved in developing this type of more sophisticated documentation will be dealt with in the next sections of this guidebook.

The important point to be made is that a documentation schedule need be neither complicated nor cover a wide variety of areas. It is probably better to focus on an area and document that area well rather than to jump from topic to topic with "one shot" documentation activities. In the example just presented, an example which if operationalized would constitute a valid schedule, only program activities and Policy Board processes were documented. Any specific teacher center project could, of course, develop a documentation schedule that is either more ambitious, or less intense.

For the Curious Documenter

While basic documentation will fulfill most project information needs, the curious documenter might be on the lookout for possibilities that will allow a more in-depth understanding of natural program circumstances. These possibilities might mean comparing two or more program elements to see if they are related (correlated), or to see if the presence of one means the absence of the other (a difference). If information is being recorded systematically and accurately, and if the data meet certain minimal requirements, then either possibility is feasible—one need only have a logical reason for the selection of the variable(s) to be analyzed. The technicalities of the process are beyond the scope of this guidebook (see Resource Bibliography). Suffice it to note that with a minimum of technical assistance, more intensive treatment of data is possible with the potential of more powerful information and with little extra work.

Suppose, for example, that the Policy Board had been asked by the administrative representative to

consider a teacher center activity designed to teach a specific skill deemed important by the school district needs assessment program. As the Policy Board discussed the request, suppose further that it became apparent that even though everyone agreed that addressing school district needs is important, there was some concern about having the teacher center support programs that weren't teacher derived.

This situation could easily prompt teacher center staff to ask the question, "Will teachers who perceive a specific skill to be of greater, rather than lesser, importance learn that skill with more proficiency?" Thus, we have a situation where the curious documenter can gather information that should be helpful in initiating an answer.

Two sets of information would be required in this example. First, the teacher center staff would have to put together an instrument that would assess the teachers' perception of the importance of the skill to be learned. Secondly, information would have to be gathered concerning the level of proficiency in learning the skill. This could occur from instructor ratings. The stage is then set.

The two sets of data can now be expressed in graphic form and tested for significance. In this case, the "scores" of both the teachers' perceptions of the skill to be learned as well as of the instructor's ratings of proficiency would be ranked (first, second, third, etc.) and a rank order correlation could be computed. If a significant correlation were obtained, teacher center project personnel could report with more power the importance of having teachers perceive material to be learned to be important, though it would not be possible to specify a cause and effect relationship. There are many resources that can help with the computation of a rank order correlation (see Siegel, 1956). It would be advisable, however, to seek out a consultant with statistical competence if that particular skill is not available within the staff. The technicalities can be confusing, and without the necessary background, it is all too easy to make simple mistakes that lead to erroneous conclusions.

Regardless of the complexities, suppose the following "scores" or measures of teacher perception of the importance of the skill to be learned and instructor ratings of the proficiency of skill development were obtained by teacher center personnel (the "scores" in the next column are artificially constructed).

Teacher	Scores and Ranks of Teacher perception of importance of skill	Scores and Ranks of Instructor rating of proficiency of skill development
A	82 (2)	42 (3)
B	98 (6)	46 (4)
C	87 (5)	39 (2)
D	40 (1)	37 (1)
E	116 (10)	65 (8)
F	113 (9)	88 (11)
G	111 (8)	86 (10)
H	83 (3)	56 (6)
I	85 (4)	62 (7)
J	126 (12)	92 (12)
K	106 (7)	54 (5)
L	117 (11)	81 (9)

Once the above data are ranked, the statistical procedures mentioned previously can be applied. In this example, there is a significant rank order correlation (+.82), thus providing more power for building the argument that there is a link between the way a teacher views the importance of a skill and the proficiency with which the teacher develops that skill. Again, it should be stressed, one cannot state that the higher teacher perception of importance resulted in higher levels of skill development; this type of data does not support that type of conclusion. Regardless, if project personnel hunch that that is the case, these data will add power to any position they might take concerning teacher perceptions of content in future activities.

It's often been said that when it comes to voluntary inservice programs, teachers vote with their feet, i.e., if the activity isn't appealing, they simply don't come. Suppose, in another example, teachers have had the opportunity to sign up for a series of work parties (fairly unstructured sharing and materials development activities) as well as a series of topical seminars. Although one can't control for the different content in the two series of activities, one can still raise the question, "Will one series of events have greater holding power than the other?"

Let's suppose that 56 teachers signed up for the series of work parties, while 24 teachers signed up for the topical seminars. As might be expected, some teachers remained in both series of activities from beginning to end, while others withdrew before the completion of the activities. Teacher center project personnel might well be curious as to whether the withdrawal rate in one or the other series occurred at a rate that could be considered to be higher than chance. This question can be graphically analyzed using what is called a crossbreak

	Work parties	Topical Seminars
Withdrew	10	11
Remained	46	13

In our example, 21 of the 80 teachers withdrew prior to the completion of the series of activities. Over half of those that withdrew were signed up for the series of topical seminars, yet less than half of the total number of teachers were enrolled in that area. Using a statistic called chi square (x^2), it is possible to test whether or not the number of withdrawers from one series as opposed to the other occurred at a rate greater than chance. In this particular example, that indeed was the case. The difference between the seminar withdrawers and the work party withdrawers occurred at a level greater than one could expect to occur by chance alone. Thus, in this case, teacher center personnel can start to think about the appropriateness of different types of delivery systems. It is important to note that there may have been factors other than the delivery system itself which led to the high withdrawal rate in the seminars. Consequently, one cannot jump too quickly to the conclusion that work parties are favored over seminars. Nonetheless, this type of information can lead not only to decision-making when it comes to programs, but it can also lead to the establishment of more and different types of programs where the same type of information can be gathered. Gradually, over time, a more powerful picture can be painted concerning the "holding power" of a variety of different types of inservice instructional delivery systems.

For the Truly Ambitious Documenter

The curious documenter will be on the lookout for more powerful information which exists in natural program circumstances. The more ambitious documenter will be on the lookout for opportunities to control, although perhaps only partially, situations which are being observed and described. While it is unlikely that many teacher center projects will have a major research focus, some may want to engage in minifield studies. It might be possible or even advisable to intervene in the program and to manipulate certain conditions in order to see if it makes a difference. Actually, creative program developers do that all the time. What they typically don't do is to plan the manipulation in such a way that they can document it and see if it makes a difference. Let's look at an example.

Let's say that the information available on teachers in the project included scores on an instrument that measures "autonomy" vs. "dependence" (there are many tests that measure this). Suppose then that as activities are developed, some are judged to be more appropriate for teachers who are either independent or autonomous, while others are designed for teachers who are "good followers." It would then be easy to place teachers into programs (on a voluntary basis) based on this "matching model," i.e., independent and dependent teachers into matching training activities.

The ministudy might then consist of comparing the progress of the "matched" teachers with the progress of teachers who simply selected training activities without regard to any specific criterion. Ratings of success in the program activity would be the only other information that would be necessary.

Once again, the crossbreak could be used to graphically present such an "experiment." In the example below, suppose that again there were 80 students, 40 who were matched with their instructional activities, and 40 who were not.

	Matched	Nonmatched
Low Success	10	26
High Success	30	14

As one can see, it appears that the "matched" students were more successful. The question is: "Was that success a result of chance, or did something intervene to cause it?" Once again the chi square (x^2) test can be used. And, in this case, the difference was significant, i.e., not a result of chance. Although these data do not *prove* that the matching caused the higher level of success, the results do provide information that allows teacher center personnel to speak with greater confidence about the accomplishments of their program activities.

VII
Analyzing Data To Create New Knowledge

Thus far, the information presented in this guidebook has been directed toward helping projects design and carry out documentation plans in a realistic and helpful manner. Thus, to a great extent, the focus has been on the generation, gathering and compilation of information. In other words, if everything has gone well in documentation, then there has been a conscientious effort to decide which information to gather, to develop both instruments and strategies for gathering information, and to develop easy and usable methods of storing and retrieving the information. The question now becomes, "How do I make sense from all this information?" or, "What do I do with it?"

Until this question has been answered, one can build the argument that most of what has taken place beforehand will be of little value. Thus, project personnel are now faced with the problem of analyzing and using the information they have on hand.

The Importance of Timing

As one starts to amass information, the question always arises, "When is the appropriate time to put it together and attempt to make sense from it?" That question is difficult to answer, and varies in accordance with the type of information that is being gathered, and the type of questions that one wishes to answer. For example, if project personnel were to conduct a series of one-time selected case studies of teacher centers, and wanted to develop a "picture" of these centers, then the appropriate time to analyze the data is as soon as possible after it is gathered. In this instance, one is answering the question, "What do the teacher centers look like along specific dimensions?"

Suppose, however, personnel have asked the question, "What happens to teacher involvement in the Policy Board processes as the project matures?" Data for this question would probably be gathered on a monthly basis at Policy Board meetings. (See Example #5 on page 14). It would make little sense to compare the data from one month to the second, as the changes would probably be minimal, if noticeable at all. Instead, it is more likely that it would be helpful to analyze these data on a semi-annual basis, i.e., once at the end of January, and again at the end of the school year.

Thus, we have two examples of situations where very different types of information were gathered in order to answer very different types of questions. There is no rule of thumb concerning when data should be analyzed. There is, however, a logic and a flow to data analysis that can usually be established with a minimal amount of planning. As one decides on a question to be answered, as well as the type of data that will be gathered in an effort to answer the question, one should also plan the data analysis periods with concern for the nature of the data and the question being answered.

It is entirely likely that it will be either advisable or necessary to construct a summary of all the data at given points within the project's life. This would simply result from a structured analysis of all of the data that have been gathered as well as the periodic analyses that have been performed. In this instance, it would probably be helpful to create a graphic that demonstrates the data analysis points that have occurred, and to give a brief summary of the conclusions at each point. Finally, an overall summary and general analytical conclusions could be constructed with little difficulty. The important point to be kept in mind is that if plans for data analysis are not part of the initial documentation plan, then project personnel run the risk of either spending far too much time attempting to analyze data that are not ready to be analyzed, or perhaps even worse, delaying the discovery of important information that could lead to significant program improvement.

The Reduction of Data

Nothing can be more frightening or depressing to a project documenter than to open a file drawer and see thousands of pages of paper that have information, yet have little or no understanding of what that information means. When this occurs, it is often necessary to reduce the data to a level that is manageable. Obviously, if the documentation process includes the regular computerization of data, this is less of a problem. Such, however, is not typically the case, as many data forms don't lend themselves to computer language.

As one attempts to reduce the quantity of data, the goal is always to create a minimax condition where the maximum amount of information is obtained from the minimum amount of data analysis. The condition is created by harkening back to the specific questions that have been asked, and attempting to reduce the data in a way that does not damage the possibility of answering the questions. Suppose, for example, that the Policy Board has asked the project director to analyze all of the activities that have taken place in the center, and to provide information as to who generated the idea. These data are available by reviewing all of the minutes of previous Policy Board meetings where

program activities were approved. If there are 27 members on the Policy Board, then the director could provide a list of all 27 members along with the number and names of the activities that were initially requested by these members. That, however, would probably be cumbersome. Rather, the teacher center staff could simply assign each Policy Board member to a category (e.g., administrator, classroom teacher, higher education personnel), and then tally the initiation of programs by role group. Thus, a process of "collapsing of the data" would have occurred. Then, the data could be analyzed in terms of a series of ratios of program initiation by role group. In this instance, the data has been reduced but the basic question has been effectively handled. And, names, personalities and specific activities have been eliminated.

It is also possible to sample data in an effort to answer specific questions. Suppose, for example, that teacher perceptions of success of over 150 center activities had been gathered over a period of one year. Suppose further, that the Policy Board wants some notion of how successful the activities have been. If the question to be answered relates to the success of the teacher center project, and not to the success of a specific activity, then a sampling procedure would likely be appropriate. In this instance, project personnel would use a table of random numbers, and identify perhaps 30 of the activities that have occurred over the past year. They could then tally the teacher ratings for these 30 activities and prepare a small report concerning the effectiveness of the center. In this case, a 20% sample was selected, and would probably be more than sufficient. The process also would allow program personnel to eliminate 80% of the work in terms of tallying and averaging rating forms. It should be noted that the rating forms from the other activities were not gathered in vain, but were most likely used for individual feedback to instructors and program personnel vis-à-vis each of the individual activities.

The collapsing and sampling of data are only two examples of techniques that can be used to reduce information in an effort to make it manageable. The important point to note here is that one must focus on the question being asked, and one must utilize technical procedures in a manner that will ensure that erroneous estimates and generalizations are not likely to occur. Given those cautions, however, the reduction of data is often not only possible and necessary, it is often even advisable.

Massaging Data

Researchers like to talk about the amount of time they devote to massaging data. It is easy to conjure up in one's mind the picture of a researcher in a white jacket hovering over a mound of printouts and gently and passionately stroking and rubbing them. Such is not really the case. Rather, researchers typically study their data until they have a complete picture of what is embedded in it, then attempt to develop a systematic process of asking questions, that were not previously posed, in an effort to see if the data can provide insights. Thus, the massaging of data is truly a heuristic process.

For personnel in a teacher center project, the process would likely be similar, but would not be restricted to an individual hovering over computer printouts. Rather, the documenter could develop a brief paper describing the type of data that are available, and the questions that the data were meant to address. Then, it would probably be wise to assemble a group of people representing the various constituencies in the project, and simply ask, "What other questions do you have that you think these data may address?"

The process would then call for the documenter to list the questions raised by the group, and attempt to relate the questions to the data that are available. In many cases, the data simply would not address the information, while in other cases it may address the question from a tangential directions. This, in itself, is a heuristic process and often helps professionals develop new insights concerning how to look at data. For example, suppose that the director had kept close track of attendance at Policy Board meetings. Suppose also that these data demonstrated that teacher attendance at Policy Board meetings steadily decreased. These data could easily be used to address a question related to, "Do the teachers view the Policy Board as an appropriate vehicle for influencing inservice education?" even though data of this type had not been thought of previously in relation to that question.

The massaging of data can be an exciting and enlightening process. The secret is to obtain as long a list as possible of the questions that are of interest to program personnel. From then on, creativity, an open mind, and the ability to develop new constructions of old information is all that is necessary.

Using the Knowledge That Is Developed

Once data have been analyzed, it is possible to use the information for a myriad of different purposes. In the past, project directors have tended to view the accumulated information from federally sponsored programs as only the fodder for a final report to the funding agent. This is unfortunate, as too much work and energy has been expended for such a limited purpose. It also helps create the illusion that documentation is not a very cost-effective process for a project. It should be helpful to explore a few of the purposes to which

analyzed data can be put.

The first, and perhaps, most important use for information generated in a documentation activity, is *project monitoring*. This simply suggests that project personnel look at their proposal, isolate the goals and objectives, and attempt to play off those goals and objectives against the information they have accumulated. In human services programs it is generally far too difficult to have specific goals and objectives related to specific information, i.e., questions are rarely answered on a "for sure" basis. Rather, this type of evaluative process is likely to allow directors and Policy Boards to say, "We're doing better here than we are there, and perhaps we should re-allocate some of our resources in order to improve performance there." It might also allow the project to "toot its own horn" in appropriate areas, while at the same time noticing that other areas have been almost forgotten in the turbulent process of program development.

Another worthwhile use of analyzed data is to provide *feedback to participants*. Most people who devote a significant amount of energy to an enterprise are interested in the health of that enterprise. Project directors can utilize information from documentation to keep participants informed. In fact, it would probably be helpful to provide "nonvalued" information to participants and involve them in making judgments about whether or not the data reflects high degrees of success, so-so performance, or indicates areas where improvement is needed. Not only does this information answer questions that program participants may have, but it also provides for them a sense of involvement in the decision-making process. Obviously, some data, particularly if it is personalized or would be damaging to a specific project component, should be withheld. This is not an unethical decision, but rather a decision that reflects the responsibility placed on the director to operate a project and to utilize information in the best interests of those involved. If this consideration is always kept in mind, data analyses can be used in a most productive fashion as feedback to various project participants.

Finally, analyzed information can frequently be used in a *dissemination* process. Any project that has something to offer must not only develop products and processes that other projects might adopt, but must also develop some form of evidence that the products and processes are successful. Think how productive this would make the Teacher Center Cluster Meetings. In this instance, it is likely that only information that is supportive of material to be disseminated would be used. In a sense, the project would only be disseminating analyzed data that implicitly supports project activities. Again, one should not be concerned about the ethical question of not presenting all possible data, as the goal of a dissemination process is to provide *usable* products for others. If an analysis of specific data suggests that a product or process did not work well, then there would be little reason to disseminate it.

Undoubtedly, the reader can think of other ways that analyzed information can be productively used. The important point to be made focuses on the notion that "good" information has a variety of possible uses, and should not be restricted to only the mundane meeting of requirements that one so often sees.

The Danger of Going Beyond the Data

There is no doubt that the possession of data provides one with a great deal of power. Simply stated, there is power in knowledge. Along with that power goes some real responsibilities. Among those responsibilities is the obligation not to use the information for purposes which are not appropriate. When this occurs, it is typically not the result of malicious motivation, but usually results from the user not being aware of the limitation of the information that he/she possesses. Thus, it is worthwhile to address the problem.

Statistics professors always caution their beginning students that a correlation does not imply a cause and effect relationship (note the examples presented earlier). Students typically nod their heads in agreement, then proceed to operate as if they hadn't heard the professor in the first place. The principle sounds easy to understand, but at times it can be confusing.

Consider, for example, a situation where teacher attendance at a teacher center project activity has steadily increased while attendance at regular school district inservice programs has steadily decreased. We have a situation where a negative correlation exists between attendance at center activities and school district inservice activities. The immediate normal response is to suggest that the drop in attendance at school district activities has probably been caused by the increased popularity of the teacher center. That may be the case, but it may also be totally inaccurate. In this instance, the correlation does not provide the information one needs in order to make statements concerning which phenomenon caused which result. It could well be that the school district has a very stable teaching force, and that enrollment in school district inservice activities no longer leads to increases on the salary schedule. Thus, it is entirely possible that attendance at school district inservice activities would have decreased regardless of whether teacher center activities were in existence or not. If that were the case, then the two phenomena would have had a spurious and misleading relation—

with no real meaningful relationship at all.

The only circumstance where one can be fairly certain about cause and effect relationships is where one of the variables being correlated with the second is dependent on, and/or a direct result of the other. A simple example of that is the relationship between length of foot and shoe size. Obviously, the correlation that results from that study is understandable, as shoes are purchased in certain sizes because of the length of the foot. Typically, however, factors being correlated in human service programs as complex as teacher centers are more complicated than this example suggests.

Finally, project personnel must be careful about understanding the distinction between knowing the meaning of data, and attributing that meaning to some external factor. For example, suppose one of the instructors in an inservice activity demands a lot of outside work on the part of students. Suppose, also, that the students do not rate that instructor high. It might be tempting to "blame" the instructor for being overdemanding in the requirements, thus lowering the teacher's ratings. However, it could be that the instructor, knowing the intricacies and difficulty of the content, realizes how important it is for teachers to spend a good deal of time in order to achieve an acceptable level of mastery. Thus, the real causative factor in the lower than average instructor ratings might be the demands of the content, rather than those of the individual.

The point is that one must be very careful in using data to ascribe fault in any type of human service program. Rather, data should lead to an analysis of the situation, perhaps even to more data gathering. Nothing can create negativism toward a documentation process more quickly than having program participants view the data as being used to their detriment.

Other examples could be presented as well. It is, unfortunately, an aspect of human nature to use data to support one's own beliefs or orientation. When this occurs, (and all of us are prone to be tempted by it), too often it results in going beyond the limits of the information, often to the detriment of others. While no one can be totally objective, it is important to have some understanding of the limits of the information that is available, and to have the discipline to continually question one's self concerning the meaning of the data and the generalizations that are made.

VIII
On With the Task

This documentation guidebook has covered a variety of topics—but none of them exhaustively. The purpose has been to help relative newcomers to the field of documentation start to focus their thinking, and to begin some very basic documentation activities. If nothing more, it is hoped that the information provided in this guidebook will have the effect of warding off some of the fears that people typically have as they start a new activity. Basically, if one pays attention to a very limited number of important points, documentation can be not only "do-able," but also fun.

A project's first efforts at documentation may be time-consuming and probably won't provide all of the information that is desired. This is to be expected. However, the documenter can always keep in mind that having some usable information is better than having no information at all. Additionally, as with any newly learned skill, documentation gets easier and better the more one does it. Thus, second and third level documentation activities will probably be less arduous and will provide more usable information.

Finally, it has been reported that as one goes along in documentation, it begins to affect the way one thinks, and the way one makes program decisions. Particularly if appropriate focus areas are selected, teacher center directors and program staff will find it easier to isolate the tough questions, and will immediately be thinking about ways to answer those questions. This type of spin-off effect will likely improve the project in numerous ways, some of which will be very difficult to identify. In other words, an implicit assumption all the way through this guidebook has been that documentation is an activity worth pursuing. Hopefully, those involved with teacher centers will come to believe that this is true.

Appendix A

Resource Bibliography

The entries in this bibliography were selected for their relevance to the topics addressed in the guidebook. Some are quite technical in nature and address only small and specific issues, while others are more generalized works that can be used to answer a variety of questions. Typically, the title will suggest to the user the potential value of the resource. At the end of each entry, one will find a number in parentheses. The number is meant to provide for the reader an estimate of the possible appropriate use of the resource. A (1) means that the resource can probably best be used for the basic designing of documentation plans. These resources usually are quite wide ranging in their approach, and most likely have the greatest amount of overall usability. A (2) at the end of an entry suggests that the resource can best be used to help program developers understand different methods for data collection. In essence, they are an amplification of some of the data collection strategies presented in this guidebook. Finally, a (3) denotes a reference that was selected to be used for data treatment and analysis. Typically, these are statistically oriented, though attempts have been made to select only those which are not overly technical in nature.

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Brandt, Richard M. *Studying Behavior in Natural Settings*. New York: Holt, Rinehart and Winston, Inc., 1972. (2)

Franzblau, Abraham N. *A Primer of Statistics for Non-Statisticians*. New York: Harcourt, Brace, and World, Inc., 1958. (3)

Heyns, R. W. and Lippitt, R. "Systematic Observational Techniques," in G. Lindzey (Ed.), *Handbook of Social Psychology*, (Vol. 1). Cambridge: Addison-Wesley, 1954. (2)

Hyman, H. and Wright, E. R. "Evaluating Social Action Programs," in Caro, F. G. (Ed.), *Readings in Evaluation Research*. New York: Russell Sage, 1967. (1)

Issac, Stephen and Michael, William B. *Handbook in Research and Evaluation*. Edits Publishers, San Diego, 1971. (3)

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Oppenheim, Abraham Naffal. *Questionnaire Design and Attitude Measurement*. New York: Basic Book, 1966. (2)

Riecken, Henry W. and Boruch, Robert F. (Eds.). *Social Experimentation: A Method for Planning and Evaluating Social Intervention*. New York: Academic Press, 1975. (1)

Rossi, Peter H. and Williams, Walter (Eds.). *Evaluating Social Programs*. New York: Seminar Press, 1972. (1)

Shaw, Marvin and Wright, Jack. *Scales for the Measurement of Attitudes*. New York: McGraw-Hill, 1967. (3)

Siegel, S. *Nonparametric Statistics for the Behavioral Sciences*. New York: McGraw-Hill, 1956. (3)

Webb, E. J. et al. *Unobtrusive Measures: Nonreactive Research in the Social Sciences*. Chicago: Rand McNally, 1966. (2)

Weick, K. E. "Systematic Observational Methods," in G. Lindzey (Ed.), *Handbook of Social Psychology*, (Vol. 2). Reading: Addison-Wesley, 1968. (2)

Weiss, Carol H. (Ed.). *Evaluating Action Programs*. Boston: Allyn and Bacon, Inc., 1972. (1)

Willems, E. P. and Raush, H. L. (Eds.). *Naturalistic Viewpoints in Psychological Research*. New York: Holt, Rinehart and Winston, 1969. (2)

Appendix B

Directory of Teacher Centers and Teacher Center Resources

DIVISION OF EDUCATIONAL SYSTEMS DEVELOPMENT
U. S. Office of Education
1832 M Street, NW.
Washington, D. C. 20036
Tel. (202) 653-5839

W. Thomas Carter, Director

A. Bruce Gaarder,
Special Assistant to the Director

TEACHER CENTERS PROGRAM
U. S. Office of Education
1832 M Street, NW.
Washington, D. C. 20036
Tel. (202) 653-5839

Allen Schmieder, Chief

Charles Lovett
Program Officer

Christine Bialek
Policy Fellow

Laverne Washington
Project Officer

Sondra Freeman
Project Officer

Reginald Pearman
Project Officer

Madison Judson
Program Associate

NATIONAL TEACHER CENTERS RESOURCE CENTER
Rhode Island Department of Education
235 Promenade Street, Room 132
Providence, Rhode Island 02908
Tel. (401) 277-6834

Edward L. Dambruch, Director

Margaretta L. Edwards, Assistant Director

COORDINATION OF DOCUMENTATION

Syracuse Area Teacher Center
Sam Yarger
Sally Mertens
400 Huntington Hall
Syracuse University
Syracuse, New York 13210
315-423-3026

NORTHEAST CLUSTER

Patricia M. Kay, Cluster Coordinator
Graduate Center of CUNY
33 West 42 Street—Room 1206
New York, New York 10036
212-840-3531

Frank Bellizzi, Director
Connecticut Teacher Center
for Humanistic Education
P.O. Box 636
Rocky Hill, Connecticut 06067
203-529-7431

Jimmie Jackson, Director
District of Columbia Teacher Center
Goding Elementary School
9th and F Streets, NE.
Washington, D. C. 20002
202-727-5362

Sally Vogel, Director
Mid-Coast Teacher Center
Box 860
Camden, Maine 04843

Troy Royce, Director
Urban Teacher Center
2003 Presbury Street
Baltimore, Maryland 21217
301-396-7120

Merrita Hruska, Director
Amherst Area Teacher Center
East Street School
East Street
Amherst, Massachusetts 01001
413-253-9363

John D. Miller, Director
Nantucket Learning & Resource Center
Box 1461, Coffin School
Nantucket, Massachusetts 02554
617-228-0863

Robert Richardson, Director
French River Teacher Center
446 Main Street
Oxford, Massachusetts 01540
617-987-0695

John Gallinelli, Director
(Higher Education Grant)
Glassboro State College
Robinson Building
Glassboro, New Jersey 08028
609-445-5371

James Lerman, Director
(Planning Grant)
The Newark Teacher Center
Two Cedar Street
Newark, New Jersey 07102
201-733-8642

Myrna Cooper, Director
NYC Teacher Centers Consortium
260 Park Avenue South
New York, New York 10010
212-777-7500 Ext. 729

Karen Wilson, Director
East Ramapo Teacher Center
461 Viola Road
Spring Valley, New York 10977
914-353-3394

Sam Yarger, Director
Syracuse Area Teacher Center
400 Huntington Hall
Syracuse University
150 Marshall Street
Syracuse, New York 13210
315-423-3026

Celia Houghton, Director
(Higher Education Grant)
The Goddard Teacher Center
Goddard College
Plainfield, Vermont 05667
802-454-8311 Ext. 225

Wade Scherer, Director
Washington West Resource Center
Old Post Office, RFD 1
Box 172 N
Waitsfield, Vermont 05673

SOUTHEAST CLUSTER

Roberta Riley, Cluster Coordinator
College of Human Development and Learning
University of North Carolina—Charlotte
UNCC Station
Charlotte, North Carolina 28223
704-597-2171

Kitty Elrod, Center Director
Teacher Teaching Teachers Center
515 South Union Street
Montgomery, Alabama 36103
202-269-5054

Elaine Beeler, Director
Hernando County Teacher Ed. Center
U. S. Highway 41, North
Brooksville, Florida 33512
904-796-6761

Howard Knopf, Director
Atlanta Area Center for Teachers
3000 Flowers Road, South
Atlanta, Georgia 30341
404-455-9108

Juanita Jones, TC Director
Teacher Renewal & Development Center
307 S. 25th Street, Box 1442
Paducah, Kentucky 42001
502-442-6824

Glenda Shivers, Director
Columbia-Marion County Teacher Center
1200 Peace
Columbia, Mississippi 39429
601-736-8468

Ann B. Boling, Director
(Planning Grant)
Jackson Municipal Separate School Dist.
750 North Congress Street
Jackson, Mississippi 39212
601-353-7305

Jean Owen, Director
Teacher Center of SPEC
619 Wall Street
Albemarle, North Carolina 28001
704-983-2126

Patricia Eisenmann-Donahue, Director
Cooperative Teacher Center
503 Franklin Street
Clarksville, Tennessee 37040
615-647-5681

Eleanor S. Chandler, Director
(Planning Grant)
Oak Ridge Teacher Center
Post Office Box Q
Oak Ridge, Tennessee 37380
615-482-2133

Jon Dodds, Director
District M Teacher Center
710 Eleventh Street
Radford, Virginia 24141

MIDWEST CLUSTER

Carolyn Fay, Cluster Coordinator
Indianapolis Teacher Center
1102 North West Street
Indianapolis, Indiana 46202
317-266-4117

Jerry Olson, Director
(Higher Education Grant)
Chicago Teachers Center
3901 North Ridgeway
Chicago, Illinois 60618

Ray Althoff, Director
Madison Co. Teacher Center
Box 122—Southern Ill. Univ.
Edwardsville, Illinois 62025

Carl Henderson, Director
Columbus Teacher Center
703 Washington Street
Columbus, Indiana 47201
812-376-4472

Sadie Shropshire, Director
Gary Teacher Center
Beckman Middle School
1403 West 23rd Avenue
Gary, Indiana 46407
219-949-5220

Carolyn Fay, Director
Indianapolis Teacher Center
1102 North West Street
Indianapolis, Indiana 46202
317-266-4117

Claudia Edwards, Director
(Higher Education Grant)
Project TRIAD
700 South 4th Street
West Lafayette, Indiana 47905
317-494-8284

Diane Gibson, Director
Teacher Center for Area Educ. Agency 7
2201 East Mitchell Avenue
Waterloo, Iowa 50702
319-234-2246

Dennis Sparks, Director
Northwest Staff Development Center
29530 Munger
Wilcox School
Livonia, Michigan 48154

G. Wayne Mosher, Director
St. Louis Metro Teacher Center
415 N. Spoede Road
Creve Coeur, Missouri 63141
314-432-1120

Susan Richmond, Director
Cincinnati Area Teacher Center
739 Hand Avenue
Cincinnati, Ohio 45232
513-681-8100

James Robarge, Director
Wood Co. Area Teacher Center
1 Courthouse Square
Bowling Green, Ohio 43402

Virginia Bell, Director
Route 5, Box 324
Sparta, Wisconsin 54656

James Kroll, Director
Project MATE
Milwaukee Public Schools
P.O. Drawer 10K
Milwaukee, Wisconsin 53201
Phone: 414-475-8393
414-475-8640

NORTHWEST CLUSTER

Richard Hersh, Cluster Coordinator
College of Education
University of Oregon
Eugene, Oregon 97403
503-686-3404

Doris Brock, Director
Northwest Arctic School District
Box 51
Kotzebue, Alaska 99752

Bedford Boston, Director
Southeastern Idaho Teacher Center Cons.
Cassia County Joint School Dist. #151
P.O. Box 638
Burley, Idaho 83318

Linda Bardonner, Director
The Teacher Center for Gallatin County
615 South 16th Street
Bozeman, MT 59715
Phone: Office—406-994-4744
Teacher Center—406-597-8181

Bob Lukes, Director
(Planning Grant)
Western Montana Teacher Center
301 West Alder
Missoula, MT 59801
Phone: 406-721-1620

Jack Turner, Director
B.E.S.T. Teacher Center
Eugene, OR 97402

Jack Bond, Developer
(Planning Grant)
Cowlitz Teacher Center
8th and Church
Kelso, WA 98626
Phone: 206-577-2400 Ext. 36

Peg Jones, Director
(Planning Grant)
Palouse Consortium Teacher Center
Jennings Elementary School
Route #1
Colfax, Washington 99111

Larry Skillestad, Director
(Planning Grant)
Spokane Teacher Center
W. 825 Spokane Falls Blvd.
Spokane, WA 99201
Phone: 509-455-3663
509-455-3740

SOUTHWEST CLUSTER

Dwain M. Estes, Cluster Coordinator
Education Service Center, Region 20
1550 Northeast Loop, 410
San Antonio, Texas 78209
512-828-3551 Ext. 302

Russell Durrett, Director
Teacher Center Program
P.O. Box 248
Sells, AZ 85634

Bill Nipper, Director
Teacher Center
1111 Spring Street
Hot Springs, AR 71901

Mary Hamilton, Director
Southwest Arkansas Resource Center
2607 Grand
Texarkana, AR 75502

Gloria Camp, Director
(Planning Grant)
North Louisiana Teacher Center
100 Bry Street
Monroe, LA 71201

Margery G. Curtiss, Director
Western Nebraska Rural Teacher Center
P.O. Box 77
Sodmeu, NE 69162

Ruthe E. Duquette, Director
Albuquerque Teachers' Learning Center
712 Girard N.E.
Albuquerque, NM 87106

Lon Cottingham, Acting Director
(Higher Education Grant)
Rural New Mexico Teacher Center
University of New Mexico
Department of Elementary Education
Albuquerque, NM 87131

Jean W. Yates, Director
UPDATE Teacher Center
314 Lewis
Stillwater, OK 74074

Robert McCrummen, Director
Alamo Area Teacher Center
1550 N.E. Loop 410
San Antonio, Texas 78209

WESTERN CLUSTER

Joe Wardlaw and
Joan McDonald, Cluster Coordinators
211 Valle Vista
Vallejo, California 94590
707-644-8921

Bernice Medinais, Director
(Higher Education Grant)
San Fernando Valley Teacher Center
California State University, Northridge
18111 Nordhoff Street
Northridge, CA 91330
213-990-4867 or 8

Janene Brunett, Director
Claremont Teacher Center
Claremont Unified School District
2080 N. Mountain Avenue
Claremont, CA 91711
714-624-9021 Ext. 217

Joe Wardlaw
Joan McDonald, Co-Directors
Vallejo Teacher Center
Vallejo Unified School District
211 Valle Vista
Vallejo, CA 94590
707-644-8921

Stephen Kingsford, Director
School Resource Network
Ventura County Supt. of Schools
535 East Main Street
Ventura, CA 93009
805-654-2164

Mary Ellen Schwartz, Director
Las Vegas Teachers' Center Program
Clark County School District
2832 East Flamingo Road
Las Vegas, Nevada 89121
702-384-9555

Barbara Ing, Director
Moab Teachers' Center Project
217 E. Center, Room 1
(P.O. Box 69)
Moab, Utah 84532
801-259-8421

Carl Palazzotto, Director
Guam Teacher Center
c/o P.O. Box 10046
Sinajana, Guam 96910
914-472-8524